

## ABSTRACT

Compositions and methods for inducing a cardiac muscle phenotype, such as rhythmic contraction and formation of myofibrils, in a cell are described. Disclosed are nucleic acids encoding myofibrillogenesis-inducing RNA (MIR) molecules, RNA molecules (MIR) and RNA-binding proteins that bind to MIR to induce myofibrillogenesis and vectors comprising these nucleic acids. Also included is a method of promoting cardiac muscle differentiation using these compositions.

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